SAN FRANCISCO WATER DEPARTMENT

PUBLIC UTILITIES COMMISSION

Proposal for Initiation of a Per Capita Rationing Program in San Francisco

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At the Public Utilities Commission meeting of April 23, the Commission requested the Water Department to study the possible implementation of a per capita rationing program in San Francisco. This report summarizes the types of per capita programs that could be considered, the methodology for gathering the data necessary to implement a per capita program, costs of such a program and other information that may prove beneficial to the Commission.

TYPES OF PROGRAMS

There are three basic types of per capita programs:

- o A simple per capita allotment providing a defined number of gallons per day per known number of occupants in a household.

- o A household allotment providing a defined number of gallons per day per household utilizing an assumption as to the typical or average number of occupants in a household.

- o Either of the first two alternatives in combination with an additional amount of water for irrigation needs.

The first alternative, the use of a simple per capita allotment, is ultimately simple to administer, and from the customer's point of view is far and away the easiest to understand and is generally perceived as the most equitable form of allotment. This approach, and any approach using per capita, however, does have a downside in that it will reduce the current allotments for a substantial number of customers who, under the current 25% non-per capita program, probably have higher allotments based on their 1987 consumption. It also may provide insufficient water to households with even minimum irrigation needs. From a more global view, however, if their current allotment is higher because they were "wasting" water in 1987, a per capita program moves away from rewarding the waster which has always been a concern of many people about the current program.

The second option, the use of a per household allotment, is even more simple to administer and is as equally understandable by the customer. Using this approach, the initial step is to make a determination as to a typical or average household. The easiest number to use is the 1990 Census figure of 2.6 occupants per household. For ease of conversion and understanding by the general public, this number could be raised to 3 occupants per household. A household allotment is then developed based on a defined number of gallons per occupant times three so that each household is assigned exactly the same allotment. From an administrative point of view, this is an extremely simple program to administer because it requires no initial census gathering but merely the assignment of the same allotment to every residential customer in San Francisco. There would, of course, be a peak appeal processing period for accounts with more than three occupants. Conversely, any household which has less than three occupants automatically gets the benefit of the entire allotment thereby removing (1) the incentive to conserve and (2) the concept of equity that is better contained in the first alternative.

The third alternative, whether the use of a per capita or a household allotment, incorporates an additional feature that reflects customer concern about the loss of vegetation and landscaping. In this approach, an amount of water is set aside from the available pool of water and added to either alternative specifically to allow a customer to protect certain designated vegetation. In no way would this approach allow for sufficient water to maintain landscaping at pre-drought levels, but rather it would provide a minimum amount of water to sustain specified trees and/or shrubs and plants.

This third alternative is important to a significant number of people for two diverse reasons. One group of customers views this as a protection of their landscaping investment and the aesthetics of their premises. A second group, more environmentally concerned, sees the protection of the trees and plants as significant in combating the build up of carbon dioxide, easing the problems of global warming and protecting a fragile ecosystem.

It is important to note that the utilization of this third alternative has an impact on the size of the basic allotment whether per capita or per household in that to develop the pool of water necessary to meet such irrigation needs would require a reduction of indoor use, <u>thus a reduction in the daily per capita allotment</u>.

Any of these three alternatives assumes the assignment of the <u>same number of gallons per day</u> to an occupant, irrespective of occupancy in a single family or multi-family residence (i.e. an apartment, duplex, triplex, etc.). It is also assumed that the current appeals process would remain intact so that households which have changes in occupancy would be provided with a process to guarantee an appropriate level of water for the actual number of occupants in the household. Finally, any appeal of a multi-family account would only be by account, not by individual living units.

<u>CENSUS METHODOLOGY</u>

Implementation of a per capita or per capita plus irrigation water program would require the development of a census by the Department. It is anticipated that a simple census or occupancy survey could be included in the Department's normal billing cycle. A simple statement would be included in an insert accompanying the bill stipulating that the Commission has instructed the Department to gather occupancy data in order to guarantee that each household will have its fair share of water during this drought period. The insert would be printed in four languages (English, Spanish, Chinese and Tagalog) to facilitate ease of communication with as many of our customers as possible.

While the rationale for conducting the census will be printed on the insert, the second page of the bill will include the survey itself. It will be a simplified document requiring only the number of occupants, the date and a signature affirming the accuracy of the information under penalty of perjury. The survey can be returned with the bill payment, thereby creating no additional cost to the individuals being surveyed. Lack of response to the survey would result in a minimum allotment (equal to one occupant only), subject to written appeal.

PROGRAM COSTS

The Department considered two options for circulating the occupancy survey. One was a direct mailing to the customers, the benefit of which is that everybody gets it at the same time and responses are returned in a more timely fashion. By utilizing the method of including the survey in the bill mailings, there is an estimated three-month response period since the billing cycle extends over two months and allowances must be made for customers who receive their bill at the end of the billing cycle to respond; however, the Department strongly endorses the concept of including the survey in the bills based primarily on financial concerns. This proposal would cost approximately $6,000 for typesetting, printing, etc. versus approximately $85,000 for a direct mailing.

It appears, based on analysis, that additional costs to develop, implement and maintain this program would be about $26,000.00. Existing Department staff would be able to handle appeals on the programs, although there may be an initial peak demand period requiring overtime work estimated at $5,000.00 as people who have not responded to the census find that they have been alloted a minimum amount thereby forcing them to appeal on the basis of an accurate head count. Keypunch costs in the amount of $10,000.00 would be required for the initial inputting of data and programming costs in the amount of $5,000.00 would be required primarily to develop the new allocations. Finally, $6,000.00 would be required for preparation of the occupancy survey.

DETERMINATION OF PER CAPITA AMOUNT

Determining either a per capita or a per household allotment would require utilizing system data as to the amount of water allocated under the current program to both single and multi-family residential accounts in San Francisco, deleting all accounts that are irrigation only, establishing a reserve pool of water to accommodate adjustments on appeal and dividing the remaining pool of water by data taken from the U.S. Census Bureau. The per capita or per household amount arrived at, even with the inclusion of water for irrigation, would have to sustain a conservation effort at the current program level.

Because there is a sustained interest on the part of the Commission, the Mayor's Office and the Board of Supervisors to protect the local economy in terms of financial impact and the maintenance of existing jobs, commercial and industrial accounts have been excluded from this analysis and any proposals derived from the analysis. While commercial and industrial allotments are based on 1987 usage, it is relatively safe to say that the vast majority of those accounts have been adjusted on the basis of data supplied during the appeal processes in 1988, 1990 or 1991 as to production or service levels, growth and new businesses coming on-line.

An analysis of available water under a 25% rationing program indicates the following per capita amounts under each alternative:

o per capita	65 gpd per occupant
o per household	156 gpd per household
o per capita and irrigation	55 gpd per occupant plus 50 gpd (irrigation)
o per household and irrigation	182 gpd per household

These per capita amounts are based on 1990 Census data. To the extent that the total number of household occupants reported in the survey substantially exceeds these figures, the Department would have to reassess the per capita amounts identified with the possibility of a recommendation being made to the Commission to reduce the per capita to stay within the pool of available water.

It appears both reasonable and prudent to continue the allotment methodology currently employed in order to achieve these goals for both commercial and industrial accounts.

RECOMMENDATION

The Department recommends, if any action is warranted in the adoption of a per capita program, that the Commission adopt the per capita plus irrigation water methodology. This methodology contains the perceived benefit of equity (everyone gets the same amount of water), provides a minimum amount of water to sustain trees and shrubs, and does not provide more water than is required for some households as does the household allotment approach.

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